

## Surface Mount General Purpose Rectifier

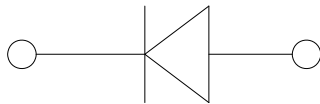


### Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- Switching for general purpose
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

### Typical Applications

For use in general purpose switching rectification of power supply, inverters, converters, and freewheeling diodes for consumer and telecommunication.



### Mechanical Date

- **Package:** SOD-123FL  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

### ■ Maximum Ratings (Ta=25°C Unless otherwise specified)

| PARAMETER   | SYMBOL           | UNIT             | G15A       | G15B | G15D | G15G | G15J | G15K | G15M |
|---|------------------|------------------|------------|------|------|------|------|------|------|
| Device marking code   |                  |                  | G15A       | G15B | G15D | G15G | G15J | G15K | G15M |
| Maximum Repetitive Peak Reverse Voltage   | V <sub>RRM</sub> | V                | 50         | 100  | 200  | 400  | 600  | 800  | 1000 |
| Maximum RMS Voltage   | V <sub>RMS</sub> | V                | 35         | 70   | 140  | 280  | 420  | 560  | 700  |
| Maximum DC blocking Voltage   | V <sub>DC</sub>  | V                | 50         | 100  | 200  | 400  | 600  | 800  | 1000 |
| Average rectified output current<br>@60Hz sine wave, Resistance load, TL (FIG.1)              | I <sub>O</sub>   | A                | 1.5        |      |      |      |      |      |      |
| Forward Surge Current (Non-repetitive)<br>@60Hz Half-sine wave, 1 cycle, T <sub>j</sub> =25°C | I <sub>FSM</sub> | A                | 45         |      |      |      |      |      |      |
| Forward Surge Current (Non-repetitive)<br>@1ms, square wave, 1 cycle, T <sub>j</sub> =25°C    |                  |                  | 90         |      |      |      |      |      |      |
| Current squared time<br>@1ms≤t≤8.3ms T <sub>j</sub> =25°C                                     | I <sup>2</sup> t | A <sup>2</sup> s | 8.4        |      |      |      |      |      |      |
| Storage temperature   | T <sub>stg</sub> | °C               | -55 ~ +150 |      |      |      |      |      |      |
| Junction temperature  | T <sub>j</sub>   | °C               | -55 ~ +150 |      |      |      |      |      |      |

### ■ Electrical Characteristics (Ta=25°C Unless otherwise specified)

| PARAMETER   | SYMBOL         | UNIT | TEST CONDITIONS   | G15A | G15B | G15D | G15G | G15J | G15K | G15M |
|---|----------------|------|---|------|------|------|------|------|------|------|
| Maximum instantaneous forward voltage                   | V <sub>F</sub> | V    | I <sub>FM</sub> =1.5A                                     | 1.1  |      |      |      |      |      |      |
| Maximum DC reverse current at rated DC blocking voltage | I <sub>R</sub> | μA   | T <sub>j</sub> =25°C                                      | 5    |      |      |      |      |      |      |
|   |                |      | T <sub>j</sub> =125°C                                     | 100  |      |      |      |      |      |      |
| Typical junction capacitance                            | C <sub>j</sub> | pF   | Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C | 10   |      |      |      |      |      |      |



# G15A THRU G15M

## ■ Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                  | SYMBOL                           | UNIT | G15A | G15B | G15D | G15G | G15J | G15K | G15M |
|----------------------------|----------------------------------|------|------|------|------|------|------|------|------|
| Typical Thermal resistance | R <sub>θJ-A</sub> <sup>(1)</sup> | °C/W | 65   |      |      |      |      |      |      |
|                            | R <sub>θJ-L</sub> <sup>(1)</sup> |      | 18   |      |      |      |      |      |      |
|                            | R <sub>θJ-C</sub> <sup>(1)</sup> |      | 16   |      |      |      |      |      |      |

Note:  
 (1) Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 3mm\*3mm copper pad areas.

## ■ Characteristics(Typical)

FIG.1: I<sub>o</sub>-T<sub>L</sub> Curve

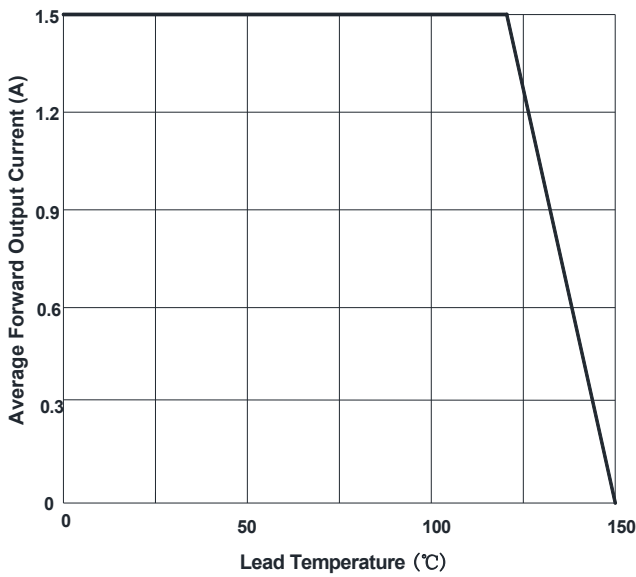


FIG.2: Forward Surge Current Capability

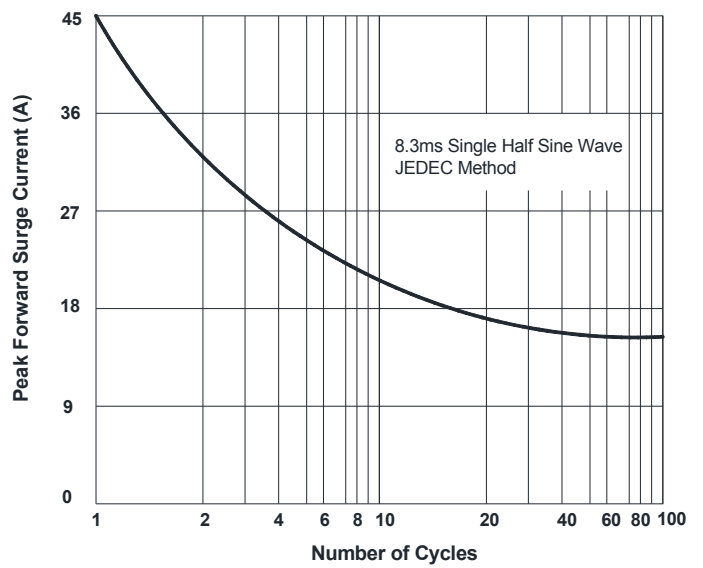


FIG.3: Typical Forward Voltage

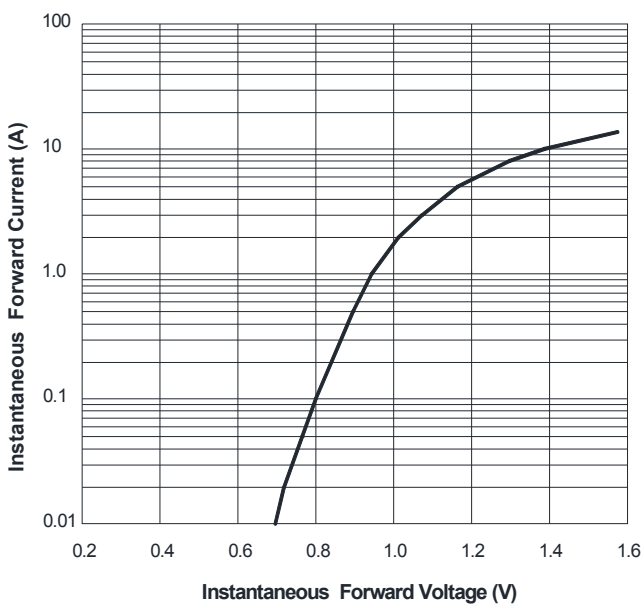
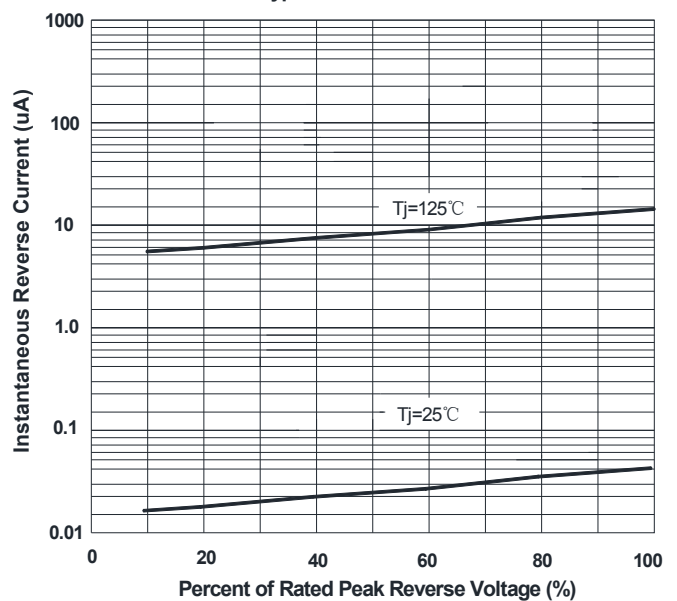


FIG.4: Typical Reverse Characteristics



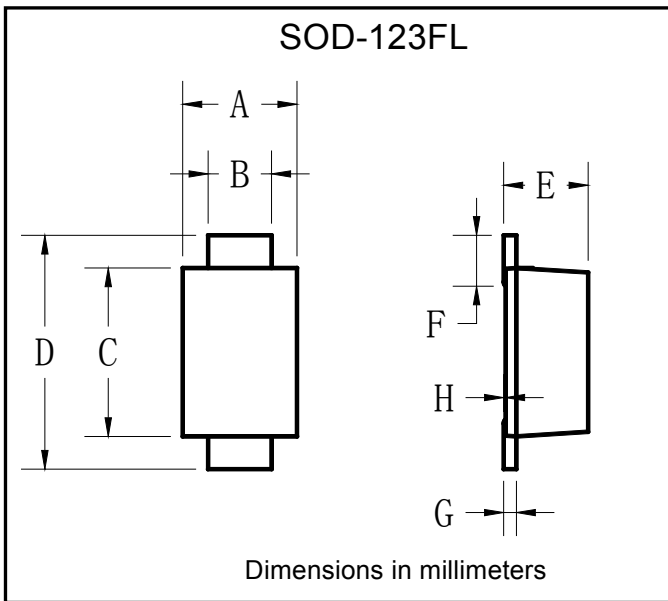


# G15A THRU G15M

## Ordering Information (Example)

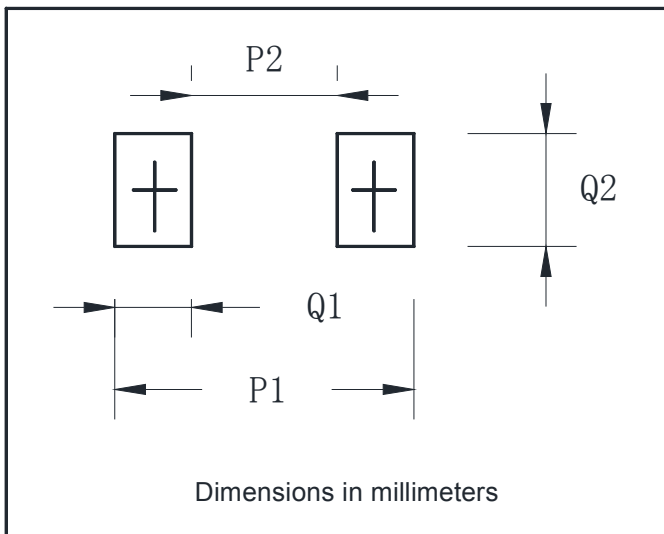
| PREFERRED P/N  | PACKING CODE | UNIT WEIGHT(g)     | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|----------------|--------------|--------------------|----------------------|-------------------------|----------------------------|---------------|
| G15A THRU G15M | F1           | Approximate 0.0169 | 3000                 | 30000                   | 120000                     | 7" reel       |
| G15A THRU G15M | F2           | Approximate 0.0169 | 2500                 | 25000                   | 100000                     | 7" reel       |
| G15A THRU G15M | F3           | Approximate 0.0169 | 10000                | /                       | 210000                     | 13" reel      |
| G15A THRU G15M | F4           | Approximate 0.0169 | 3000                 | 54000                   | 108000                     | 7" reel       |
| G15A THRU G15M | F5           | Approximate 0.0169 | 10000                | /                       | 160000                     | 13" reel      |
| G15A THRU G15M | F6           | Approximate 0.0169 | 3000                 | 12000                   | 60000                      | 7" reel       |

## Outline Dimensions



| SOD-123FL |      |      |
|-----------|------|------|
| Dim       | Min  | Max  |
| A         | 1.60 | 1.90 |
| B         | 0.90 | 1.10 |
| C         | 2.55 | 2.85 |
| D         | 3.60 | 3.90 |
| E         | 1.00 | 1.20 |
| F         | 0.40 | 0.90 |
| G         | 0.10 | 0.25 |
| H         | 0.02 | 0.05 |

## Suggested pad layout



| SOD-123FL |             |
|-----------|-------------|
| Dim       | Millimeters |
| P1        | 3.90        |
| P2        | 1.90        |
| Q1        | 1.00        |
| Q2        | 1.50        |



## G15A THRU G15M

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